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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/551,245

09/28/2005

Claus Breuer

710270-022

1883

59582 7590 02/22/2008  
DICKINSON WRIGHT PLLC  
38525 WOODWARD AVENUE  
SUITE 2000  
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EXAMINER

LEE, GILBERT Y

ART UNIT

PAPER NUMBER

3673

MAIL DATE

DELIVERY MODE

02/22/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/551,245	<b>Applicant(s)</b> BREUER ET AL.	
	<b>Examiner</b> GILBERT Y. LEE	<b>Art Unit</b> 3673	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 January 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 January 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/28/08 has been entered.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Colvin (US Patent No. 2,591,920) in view of Kinsley et al. (US Patent No. 1,645,146).

Regarding claim 14, the Colvin reference discloses a one-piece piston ring (11) having a gap (14), an outer surface (24), an inner surface (e.g. surface opposite 24), an upper flank (e.g. 23), and a lower flank (e.g. flank opposite 23); said piston ring further including a bevel (21) extending between said upper flank and said inner surface (Fig. 3), said bevel having an angle (e.g. Fig. 3 E-E) measured from a plane perpendicular to said inner and outer surfaces which varies in a circumferential direction of said piston

ring such that the angle is smaller in an area adjacent said gap as compared to an area diametrically opposed to said gap (Fig. 3); said bevel having a width which also varies in the circumferential direction and which is wider in the area adjacent said gap as compared to the area diametrically opposed to said gap (Fig. 2).

However, the Colvin reference fails to explicitly disclose the lower flank having a radial wall thickness which also varies in the circumferential direction such that said thickness is smaller in the area adjacent said gap as compared to the area diametrically opposed to said gap.

The Kinsley et al. reference, a piston ring, discloses making the lower flank having a radial wall thickness which also varies in the circumferential direction such that said thickness is smaller in the area adjacent said gap as compared to the area diametrically opposed to said gap (Fig. 3).

It would have been obvious to one of ordinary skill in the art at the time of the invention to make the lower flank having a radial wall thickness which also varies in the circumferential direction such that said thickness is smaller in the area adjacent said gap as compared to the area diametrically opposed to said gap in the Colvin reference in view of the teachings of the Kinsley et al. reference since the combination would not destroy the predictable established function of the Colvin reference.

***Response to Arguments***

3. Applicant's arguments with respect to claim 14 have been considered but are moot in view of the new ground(s) of rejection.
4. With regards to the applicant's argument of controlling the behavior of the ring during operation, the argument is not persuasive because the modified Colvin reference discloses the structure of the claimed invention and will be **capable of** behaving in the same manner as the current invention.

***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to GILBERT Y. LEE whose telephone number is (571)272-5894. The examiner can normally be reached on 8:00 - 4:30, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia L. Engle can be reached on (571)272-6660. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3673

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Patricia L Engle/  
Supervisory Patent Examiner, Art  
Unit 3673

/G. Y. L./  
Examiner, Art Unit 3673